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272,900 824 273,848 708 274,712 767 275,655 956 276,427 836 277,170 847 278,177 896 272,970 602 273,858 638 274,738 736 275,655 956 276,458 824 277,158 831 278,207 897 272,970 602 273,858 638 274,738 736 275,655 991 275,458 831 276,438 815 277,158 831 278,207 897 272,970 602 273,935 648 274,738 736 275,655 991 275,655 991 275,458 831 277,158 831 278,207 897 272,981 670 273,953 648 274,788 737 275,759 890 272,982 650 273,956 648 274,797 917 275,724 898 272,985 650 273,956 668 274,818 388 275,753 882 276,455 885 277,151 836 278,359 896 272,986 765 273,956 668 274,918 748 275,753 786 276,471 897 277,151 836 278,359 896 272,986 765 273,956 668 274,918 748 275,753 786 276,471 897 277,151 836 278,359 896 272,996 602 273,889 703 274,919 748 275,752 812 276,471 897 277,151 836 278,369 896 273,907 602 273,889 703 274,919 748 275,752 819 276,524 819 276,752 819 276,572 819 277,573 819 276,572 819 277,573 819 277,573 819 277,573 819 277,573 819 277,574 819 277,57	272,858				274,722		275,536		276,410		277,163		278,164	
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$			273,855		274,763		275,653	905	276,435	824	277,185	831	278,207	897
$\begin{array}{c} 272,981\\ 272,982\\ 650\\ 765\\ 773,955\\ 668\\ 774,976\\ 669\\ 774,976\\ 669\\ 774,976\\ 669\\ 774,976\\ 669\\ 774,986\\ 775\\ 775\\ 775\\ 775\\ 775\\ 775\\ 775\\ 77$	272,970	652	273,883	653	274,784	735	275,678		276,438		277.194		278,211	
272,982 670   273,935 614   274,797 917   275,724 808   276,150 812   277,211 876   278,236 805   272,986 675   273,966 659   274,831 858   275,725 822   276,150 812   277,215 836   278,235 806   272,996 602   273,891 703   274,919 748   275,753 862   276,775 832   277,751 876   277,231 876   278,395 918   273,007 655   273,891 703   274,919 748   275,759 812   276,745 832   277,251 876   278,395 918   273,007 655   273,891 703   274,919 748   275,759 812   276,188 809   277,231 806   277,335 808   277,335 808   277,335 808   277,335 808   277,335 808   277,335 808   277,337 807   273,395 918   276,779 809   276,818 809   277,237 809   277,301 808   277,301 808   277,301 808   277,302 808   277,301 809   277,302 809   277,301 809   277,302 809   277,301 809   277,302 809   277,301 809   277,302 809   277,301 809   277,302 809   277,301 809   277,302 809   277,301 809   277,302 809   277,301 809   277,302 809   277,301 809   277,302 809   277,301 809   277,302 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   277,402 809   27	272,972		273,886		274,786				276,140		277,206		278,214	900
$\begin{array}{c} 272,982 \\ 272,986 \\ 765 \\ 765 \\ 765,976 \\ 765 \\ 765 \\ 765 \\ 769 \\ 774,198 \\ 778,011 \\ 778$							275,724		276,150		277,211	970	278,236	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	272,982		273,956	658	274,834		275,725		276,455		277,214		278,263	896
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			273,976						276,471		277,215			
273,017 661 274,009 645 274,191 768 276,763 829 276,183 862 277,275 837 278,191 901 273,025 727 274,003 688 274,355 765 275,775 800 276,527 291 277,358 878 278,115 912 273,029 790 274,007 660 274,355 765 275,779 801 276,527 291 277,388 878 278,147 902 278,031 655 274,008 600 274,355 765 275,779 801 276,527 291 277,389 878 278,147 902 273,043 647 274,016 912 274,355 767 276,781 783 276,530 867 277,391 874 278,134 931 273,045 600 274,112 765 274,960 772 276,781 783 276,530 867 277,391 874 278,134 931 273,045 600 274,112 765 274,960 772 276,788 816 276,542 825 277,398 868 278,437 912 273,046 651 274,161 708 274,968 773 275,791 785 274,008 862 274,144 925 273,002 688 274,155 756 274,968 789 275,755 181 276,537 812 277,100 888 278,447 945 273,003 652 274,156 667 274,974 702 275,813 822 276,632 812 277,104 802 276,164 92 274,164 677 274,974 702 275,813 822 276,632 812 277,141 871 276,464 92 273,103 649 274,164 703 274,974 708 274,974 708 274,974 818 274,974			273,989				275,760		276,473		277,256		278,398	
273,017 661 274,000 872 274,392 703 275,772 810 270,522 868 277,777 827,277 86.0 278,101 942 273,029 700 274,007 660 274,355 755 275,779 801 270,527 921 277,398 878 278,417 902 278,031 655 274,008 660 274,355 765 275,781 783 276,530 867 277,391 874 278,343 931 273,043 647 274,010 912 274,359 741 276,785 786 270,532 868 277,394 868 278,414 931 273,045 660 274,142 755 274,966 772 275,788 816 276,542 825 277,394 868 278,437 912 273,046 651 274,146 708 274,966 773 275,795 878 276,542 825 277,398 869 278,447 944 925 278,003 652 274,146 763 274,966 773 275,795 811 822 276,542 825 277,404 830 278,467 935 273,093 652 274,146 607 274,974 702 275,795 811 822 276,553 812 277,404 830 278,465 935 273,103 652 274,146 763 274,976 768 275,795 811 276,547 812 277,419 809 278,463 935 273,103 644 274,175 743 274,981 754 276,543 826 276,574 831 277,449 899 278,463 903 273,168 638 274,175 743 274,993 772 275,819 801 277,591 812 277,167 882 278,467 818 273,168 638 274,175 743 274,993 772 275,819 801 276,547 812 277,167 882 278,485 897 273,228 665 274,147 706 275,002 753 273,838 806 276,004 831 277,147 883 278,485 897 273,229 929 274,288 705 275,044 780 275,044 810 277,175 883 278,485 897 273,229 929 274,288 705 275,044 780 275,044 810 277,175 885 278,485 897 273,229 929 274,288 705 275,044 780 275,044 810 276,273 816 277,174 802 276,818 802 276,048 810 277,174 802 276,818 802 277,174 802 276,818 802 277,174 802 276,818 802 277,174 802 277,175 818 277,175 8			273,999		274,912		275,763		276,483	862	277,273	868	278,399	901
$\begin{array}{c} 273,029 & 790 & 274,007 & 660 & 274,955 & 755 & 275,779 & 801 & 276,527 & 921 & 277,391 & 874 & 278,117 & 902 \\ 273,045 & 647 & 274,016 & 912 & 274,950 & 741 & 275,785 & 786 & 276,532 & 868 & 277,391 & 874 & 278,137 & 912 \\ 273,045 & 690 & 274,142 & 755 & 274,960 & 772 & 275,785 & 786 & 276,532 & 868 & 277,394 & 868 & 278,137 & 912 \\ 273,046 & 651 & 274,146 & 708 & 274,966 & 773 & 275,791 & 785 & 276,543 & 836 & 277,400 & 888 & 278,447 & 944 \\ 273,092 & 688 & 274,155 & 756 & 274,966 & 773 & 275,795 & 811 & 276,543 & 836 & 277,404 & 882 & 278,447 & 944 \\ 273,093 & 652 & 274,156 & 697 & 274,974 & 792 & 275,828 & 862 & 276,563 & 921 & 277,414 & 874 & 278,454 & 912 \\ 273,101 & 689 & 274,164 & 763 & 274,976 & 768 & 275,828 & 726,571 & 808 & 277,419 & 899 & 278,463 & 903 \\ 273,103 & 644 & 274,175 & 743 & 274,991 & 754 & 275,813 & 826 & 276,594 & 831 & 277,494 & 887 & 278,165 & 898 \\ 273,166 & 658 & 274,187 & 766 & 275,002 & 733 & 275,852 & 755 & 799 & 276,610 & 881 & 277,467 & 880 & 278,474 & 919 \\ 273,224 & 646 & 274,196 & 701 & 275,011 & 756 & 275,862 & 822 & 276,056 & 850 & 277,517 & 880 & 278,585 & 897 \\ 273,228 & 695 & 274,197 & 701 & 275,021 & 766 & 275,891 & 806 & 276,007 & 878 & 277,540 & 888 & 278,775 & 985 \\ 273,346 & 688 & 274,226 & 697 & 275,002 & 768 & 275,991 & 816 & 276,150 & 878 & 277,540 & 907 & 278,768 & 928 \\ 273,346 & 688 & 274,226 & 697 & 275,009 & 761 & 275,891 & 816 & 276,150 & 878 & 277,540 & 907 & 278,768 & 928 \\ 273,347 & 618 & 274,226 & 697 & 275,009 & 761 & 275,897 & 816 & 276,150 & 877,277 & 882 & 278,811 & 934 \\ 273,352 & 647 & 274,266 & 701 & 275,011 & 760 & 275,897 & 816 & 276,150 & 881 & 277,740 & 882 & 278,785 & 936 \\ 273,349 & 670 & 274,233 & 705 & 275,014 & 810 & 276,090 & 878 & 277,540 & 907 & 278,585 & 936 \\ 273,335 & 647 & 274,266 & 701 & 275,091 & 708 & 276,091 & 878 & 277,540 & 892 & 278,511 & 934 \\ 273,352 & 647 & 274,266 & 701 & 275,091 & 708 & 276,091 & 878 & 277,540 & 892 & 278,511 & 934 \\ 273,351 & 648 & 274,256 & 760 & 275,092 & 768 & 276,091 & 877,773 & 886 & 277$	273,017						275,773		276,518		277,275		278,411	942
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			274,003				275,778		276,522					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,023		271,008		271,958		275,781	783	276,530	867	277,391	874	278,434	931
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,043		274,016		274,959		275,785		276,532		277,394		278,437	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,045						275,788				277,400		278,144	
$\begin{array}{c} 273,093 \\ 652 \\ 274,164 \\ 668 \\ 697 \\ 6764 \\ 676 \\ 687 \\ 6764 \\ 697 \\ 698 \\ 697 \\ 698 \\ 697 \\ 698 \\ 6$	273,040		271,155						276,557		277,404		278,450	935
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,093		274,156		274,974	792	275,813		276,563		277,414		278,454	912
$\begin{array}{cccccccccccccccccccccccccccccccccccc$									276,571		277,419			903
$\begin{array}{cccccccccccccccccccccccccccccccccccc$									276,597			882	278,474	919
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,169	599	274,187	766	275,002	753	275,858	799	276,610	881	277,476	889	278,485	897
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	273,224				275,011		275,862		276,703		277,517		278,578	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	273,228				275,031		275,891		276,709		277,540		278,768	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,263	859	274,211	743	275,090	761	275,897	816	276,715	862	277,541	912	278,771	927
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			274,225										278,777	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,347				275,000				276,728		277,577		278.814	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		645	274,259	714	275,116		276,065	867	276,730	847	277,586	892	278,815	946
$\begin{array}{cccccccccccccccccccccccccccccccccccc$									276,736		277,716			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,301 973 355						276,100		276,743		277,722		278,851	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,364		274,283		275,281		276,120		276,757	841	277,723		278,881	935
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	273,373				275,283		276,121		276,766	837	277,734			928
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	273,386		274,297		275,284				276,767		277,789			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			274,303		273,292		276,146		276,797		277,774		278,920	927
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	273,414		274,314		275,301		276,134		276,807		277,798		278,922	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	273,120								276,820					928
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	273,457						276,181		276,860					942
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	273,474	694	274,355	756	275,316	800	276,185	816	276,864	884	277,869	894	278,985	928
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	273,475				275,321				276,874		277,912		278,997	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			271.387		275,320				276.887	832	278.037		279,150	
273,499   689   274,404   741   275,333   801   276,208   819   276,921   848   278,041   930   279,273   943	273,493	696	274,401	740	275,329	792	276,206	963	276,911	8.17	278,039	902	279,219	942
210,000   120   210,001   100   210,001   001   210,1210   013   210,011   300   210,011   300   310,200   348			274,404		275,333		276,208		276,921		278,041		279,273	
	275,000	120	413,300	100	210,504	001	210,210	010	~10,3.11	300	210,041	203	000,000	320

# UNITED STATES PATENTS.

(Note.—The letter "R" indicates that a reissue of the patent is referred to.)

No. of Page B.	No. of	Page.	No. of	Page.	No. of	Page.	No. of	Page.	No. of	Page.	No. of	Page.
	Patent.	B.	Patent.	B.	Patent,	B.	Patent.	B.	Patent.	B.	Patent.	B.
1,255,878n 842 1,346,188n 257 1,420,477n 775 1,437,487n 85 1,455,701n 177 1,458,530n 86 1,465,398n 901 1,472,324n 383 1,505,181n 893 1,505,181n 105	1,544,451R 1,559,93SR 1,565,899R 1,568,512 1,572,117R 1,576,072 1,587,646R 1,592,078 1,592,399R 1,595,058	592 173 122 82 534 856 736	1,597,964R 1,598,672 1,598,831 1,599,072 1,599,363 1,599,462 1,599,613 1,599,613 1,599,649	469 11 6 6 11 23 32 32 32 11 376	1,599,649R 1,599,650 1,599,650R 1,599,681 1,599,701 1,599,737 1,599,737 1,599,797 1,599,797	377 26 377 2 17 7 28 7 32 6	1,599,825 1,599,833 1,599,930 1,599,952 1,599,963 1,600,030 1,600,203 1,600,375 1,600,503	6 7 26 162 2 7 66 17 6	1,600,573 1,600,762 1,600,780 1,600,784 1,600,845 1,600,899 1,601,729 1,601,741 1,601,771	234 1 31 2 7 11 67 6 67 35	1,601,786 1,601,787 1,601,891 1,601,897 1,601,938 1,601,938 1,602,004 1,602,014 1,602,062	6 15 59 11 11 23 18 32 19

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1,602,163 1,602,183 1,602,183 1,602,183 1,602,242 1,602,241 1,602,253 1,602,274 1,602,253 1,602,527 1,602,527 1,602,523 1,603,334 1,603,342 1,603,350 1,603,350 1,603,362 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,502 1,603,702 1,603,702 1,603,702 1,604,235 1,604,235 1,604,235 1,604,235 1,604,235 1,604,235 1,604,235 1,604,235 1,604,235 1,604,235 1,604,235 1,604,363 1,604,235 1,604,363 1,604,235 1,604,363 1,604,471 1,604,481 1,604,472 1,604,481 1,604,473 1,604,471 1,604,481 1,604,473 1,604,481 1,604,553	276 605 535 17 9 15 1 10 16 61 12 9 28 6 10 7 1 1 10 16 6 11 12 9 1 1 10 16 6 11 12 9 1 1 10 16 6 11 10 10 10 10 10 10 10 10 10 10 10 10	1,604,574   1,604,575   1,604,576   1,604,576   1,604,576   1,604,691   1,604,691   1,604,691   1,604,691   1,604,691   1,604,691   1,604,691   1,604,691   1,604,691   1,604,738   1,604,738   1,604,738   1,604,738   1,604,738   1,604,738   1,604,738   1,604,738   1,604,738   1,605,009   1,605,009   1,605,009   1,605,009   1,605,003   1,605,102   1,605,103   1,605,216   1,605,236   1,605,236   1,605,236   1,605,236   1,605,236   1,605,236   1,605,236   1,605,236   1,605,236   1,606,236   1,606,236   1,606,236   1,606,236   1,606,236   1,606,350   1,60	45 45 45 45 45 45 47 48 38 38 38 38 38 61 47 48 67 60 56 50 51 140 92 181 181 181 182 177 75 162 178 81 123 177 75 162 178 81 188 114 168 81 188 1188 188 188 188 188 188 188	1,606,624 1,606,698 1,606,769 1,606,769 1,606,769 1,606,787 1,606,889 1,606,889 1,606,988 1,606,988 1,607,012 1,607,013 1,607,013 1,607,014 1,607,014 1,607,014 1,607,216 1,607,316 1,607,316 1,607,416 1,607,416 1,607,416 1,607,416 1,607,416 1,607,416 1,607,416 1,607,416 1,607,416 1,607,416 1,607,416 1,607,416 1,607,518 1,607,518 1,607,518 1,607,518 1,607,518 1,607,518 1,607,518 1,607,518 1,607,518 1,607,518 1,607,518 1,607,518 1,607,615 1,607,814 1,607,814 1,607,814 1,607,814 1,608,818 1,608,118 1,608,118 1,608,118 1,608,118 1,608,118 1,608,118 1,608,611 1,608,611 1,608,611 1,608,611 1,608,611 1,608,614 1,608,611 1,608,	173 67 114 107 96 89 77 68 132 163 132 163 173 108 162 114 94 81 173 93 96 65 65 125 120 100 173 173 173 173 173 173 173 173 173 173	1,608,700 1,608,706 1,608,706 1,608,706 1,608,706 1,608,706 1,608,706 1,608,816 1,608,817 1,608,814 1,608,816 1,608,816 1,608,816 1,608,816 1,608,916 1,609,000 1,609,001 1,609,	74 82 83 134 169 204 858 81 138 115 858 106 106 107 129 109 109 117 117 129 109 117 117 129 117 129 119 117 129 139 140 159 160 160 160 160 160 160 160 160	G10,399   G10,399   G10,399   G10,465   G10,465   G10,525   G10,525   G10,525   G10,527   G11,025   G12,025   G12,	162 192 192 196 186 134 196 197 198 198 199 199 199 199 199 199 199 199	1,613,999 1,613,334 1,613,335 1,613,331 1,613,335 1,613,341 1,613,362 1,613,448 1,613,459 1,613,651 1,613,652 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,613,653 1,614,653 1,614,953 1,614,	180 180 180 180 180 180 180 180 180 180	1,615,249 1,615,280 1,615,280 1,615,280 1,615,283 1,615,383 1,615,383 1,615,383 1,615,383 1,615,483 1,615,483 1,615,493 1,615,493 1,615,515 1,615,515 1,615,515 1,615,550 1,615,551 1,615,550 1,615,550 1,615,550 1,615,550 1,615,550 1,615,583 1,615,584 1,615,584 1,615,583 1,615,584 1,615,583 1,615,584 1,615,583 1,615,583 1,615,584 1,615,583 1,615,584 1,615,583 1,615,583 1,615,886 1,615,887 1,615,993 1,615,993 1,615,993 1,615,993 1,615,993 1,615,973 1,616,751 1,615,779 1,616,910 1,616,010 1,616,010 1,616,010 1,616,010 1,616,100 1,616,201 1,616,201 1,616,300 1,616,	253 190 182 207 301 580 182 210 368 210 368 210 368 246 210 253 246 246 210 253 247 207 204 217 207 204 217 207 207 207 207 207 207 207 20

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1,629,241 1,629,250 1,629,345 1,629,352	519 532 491 482	1,631,637 1,631,642 1,631,695 1,631,720 1,631,722	548 634 602 548	1,633,871 1,633,874 1,633,877 1,633,881	771 551 793 768	1,635,761 1,635,793 1,635,812 1,635,845	775 606 661 596	1,638,112 1,638,113 1,638,115 1,638,116	961 961 806 961	1,640,648 1,640,652 1,640,657 1,640,668	827 778 776 785	1,642,574 1,642,587 1,642,588 1,642,594	820 964 964 926
1,629,393 1,629,396 1,629,448 1,629,512	519 626 535 504	1,631,729 1,631,730 1,631,750	610 602 602 675	1,633,927 1,633,929 1,633,941	771 859 838 563	1,635,896 1,635,949 1,635,950 1,635,981	597 652 657 779	1,638,116 1,638,121 1,638,220 1,638,279 1,638,335	812 853 847 806	1,640,674 1,640,698 1,640,706 1,640,707 1,640,708	783 768 791 768	1,642,595 1,642,624 1,642,662 1,642,667	829 807 959 848
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1,629,699 1,629,714 1,629,733 1,629,769	527 557 465 553	1,631,871 1,631,875 1,631,887 1,631,903	572 574 734 677	1,633,959 1,633,967 1,633,976 1,633,997 1,634,006	607 788 773 786	1,636,151 1,636,201 1,636,229 1,636,296	750 797 796 748	1,638,522 1,638,535 1.638.643	841 790 836 836	1 640,720 1,640,724 1,640,737 1,640,775	961 870 892 892	1,642,754 1,642,788 1,642,789	908 907 921
1,629,770 1,629,807 1,629,810 1,629,819	555 718 626 567	1,631,930 1,631,947 1,631,974	528 610 569	1,634,012	7599 771 601	1,636,300 1,636,319 1,636,351	763 774 745	1,638,644 1,638,669 1,638,677 1,638,684	758 792 848	1,640,802 1,640,803 1,640,817 1,640,818	874 874 790	1,642,830 1,642,871 1,642,880 1,642,896	925 900 842 842
1,629,819 1,629,884 1,629,885 1,629,894 1,629,906	574 550 550	1,632,011 1,632,027 1,632,052 1,632,105	549 549 549 783	1,634,076 1,634,090 1,634,100 1,634,122 1,634,124	551 561 677 565	1,636,455 1,636,456 1,636,467 1,636,485	749 749 753 743	1,638,713 1,638,735 1,638,832 1,638,833	859 961 860 860	1,640,837 1,640,853 1,640,899	790 784 963 884	1,642,912 1,642,929 1,642,942 1,642,943	900 921 897 897
1,629,908	470 470 469 565	1,632,113 1,632,251 1,632,252 1,632,278	783 788 770 772 798	1,634,154 1,634,182 1,634,221 1,634,222	545 558 797 797	1,636,493 1,636,520 1,636,550 1,636,563	749 711 768 795	1,638,834 1,638,855 1,638,877 1,638,977	860 783 758 746	1,640,901 1,640,922 1,640,938 1,640,952	887 786 806 815	1,642,943 1,642,943 1,642,975 1,642,978 1,643,011 1,643,012	884 874 857 857
1,629,999 1,630,044 1,630,050 1,630,072	563 626 507 573	1,632,299 1,632,306 1,632,307 1,632,312	778 574 786 793	1,634,241 1,634,242 1,634,243 1,634,244 1,634,245 1,634,246	780 549 549 549	1,636,563 1,636,569 1,636,585 1,636,596 1,636,644	763 767 788 741	1,639,051 1,639,057 1,639,152	736 959 963 838	1,640,975 1,640,988 1,641,005 1,641,053	962 784 892 868	1,643,036 1,643,047 1,643,054	836 021 847 832
1,630,074 1,630,079 1,630,101 1,630,128	549 511 549 561	1,632,365 1,632,419 1,632,458 1,632,467	787 781 768 839	1,634,245 1,634,246 1,634,259 1,634,310	545 545 615 616	1,636,656 1,636,657 1,636,685 1,636,701	753 753 768 764	1,639,186 1,639,206 1,639,214 1,639,271 1,639,272 1,639,274	965 799 966 813	1,641,108	800 870 820 807	1,643,065 1,643,080 1,643,116 1,643,136 1,643,137	872 904 842 842
1,630,129 1,630,143 1,630,147	569 569 552	1,632,483 1,632,484 1,632,485	777 777 777 777 569	1,634,331 1,634,336 1,634,336 1,634,338 1,634,343	607 592 789 777	1,636,710 1,636,719 1,636,724	841 763 841 753	1,639,327	962 961 806	1,641,132 1,641,241 1,641,292 1,641,305 1,641,322	798 771 775	1,643,155 1,643,181	960 908 917
1,630,197 1,630,201 1,630,202 1,630,224	552 623 549 492	1,632,579 1,632,604 1,632,617 1,632,647	560 789 562	1,634,346	726 780 792	1,636,763 1,636,768 1,636,818 1,636,854	767 758 764	1,639,330 1,639,347 1,639,356 1,639,390	784 · 807 805 804	1,641,326 1,641,337 1,641,349 1,611,409	819 800 801 866	1,643,233 1,643,243 1,643,261 1,643,272 1,643,276	965 832 842 836
1,630,202 1,630,224 1,630,267 1,630,283 1,630,285 1,630,300	531 521 519 515	1,632,666 1,632,667 1,632,704 1,632,740 1,632,748	789 789 783 957	1,634,359 1,631,410 1,634,424 1,634,459	609 795 777 693	1,636,855 1,636,856 1,636,857 1,636,860	764 771 796 751	1,639,390 1,639,391 1,639,417 1,639,423 1,639,431	804 756 959	1,641,409 1,641,411 1,641,412 1,641,413 1,641,422	873 873 873 969	1,643,301 1,643,304	916 896 922 913
1,630,301 1,630,316 1,630,361	515 625 528 532	1,632,748 1,632,758 1,632,759 1,632,802	768 770 790 774	1,634,473 1,634,477 1,634,478 1,634,479	771 769 769 769	1,636,881 1,636,890 1,636,938 1,636,942	848 763 741 766	1,639,531 1,639,549 1,639,571 1,639,584	962 763 761 749	1,641,520 1,641,529 1,641,544	965 866 822 892	1,643,321 1,643,401 1,643,437 1,643,446	847 960 839 961
1,630,411 1,630,412 1,630,424 1,630,448 1,630,485	610 610 519 632	1,632,829 1,632,833 1,632,845 1,632,891	594 785 769 609	1,634,480 1,634,497 1,634,505 1,634,514	769 726 603 771	1,636,946 1,636,952 1,636,974 1,636,975	741 796 753 741	1,639,585 1,639,610 1,639,658 1,639,694	826 785 773 785	1,641,546 1,641,563 1,641,564 1.641,573	806 965 820 824	1,643,447 1,643,496 1,643,520 1,643,521	852 852 836 836
1,630,485 1,630,506 1,630,507 1,630,508	624 612 606 606	1,632,950 1,632,959 1,632,967 1,633,067	726 574 770 775	1,634,514 1,634,527 1,634,586 1,634,603 1,634,613	607 726 746 774	1,637,007 1,637,023 1,637,052 1,637,068	740 773 769 795	1,639,698 1,639,704 1,639,724 1,639,725	786 811 797 797	1,641,573 1,641,579 1,641,588 1,641,598 1,641,637	797 905 824 781	1,643,529 1,643,532 1,643,566 1,643,569	862 866 905 970
1,630,577 1,630,578 1,630,589	622 622 624	1,633,071 1,633,091 1,633,123	769 784 772	1,634,615 1,634,658 1,634,659 1,634,666	784 622 622 674	1,637,163 1,637,166 1,637,167 1,637,187	753 767 754 740	1,639,903 1,639,905 1,639,947	\$85 815 797 885	1,641,676 1,641,677 1,641,708	826 826 896 923	1,643,610 1,643,619 1,643,663	970 860 860
1,630,593 1,630,613 1,630,633 1,630,634	618 531 599 599	1,633,132 1,633,152 1,633,160 1,633,164	781 776 776 767	1,634,735 1,634,795 1,634,796	602 778 778	1,637,281 1,637,311 1,637,353	749 763 814	1,639,957 1,639,980 1,639,981 1,639,982	787 787 787	1,641,710 1,641,736 1,641,752 1,641,771	801 819 792	1,613,666 1,613,675 1,643,692 1,643,698 1,643,699	858 836 861 901
1,630,635 1,630,618 1,630,660 1,630,662	599 624 512 627	1,633,200 1,633,220 1,633,221 1,633,258	792 776 776 785	1,634,870 1,634,879 1,634,969 1,634,980	778 616 609 599	1,637,439 1,637,451 1,637,481 1,637,486 1,637,510	779 778 819 785	1,639,983 1,639,984 1,639,985 1,639,988	787 787 787 806	1,641,804 1,641,843 1,641,852 1,641,941	901 959 962 961	1,643,736 1,643,772 1,643,774	901 835 857 850
1,630,688 1,630,752 1,630,769 1,630,771	726 675 619 726	1,633,292 1,633,337 1,633,347 1,633,352	771 788 777 768	1,634,986 1,635,012 1,635,013 1,635,026	746 774 774 774	1,637,512 1,637,514 1,637,515	962 823 814 814	1,639,989 1,640,018 1,640,148 1,640,161	783 773 829 785	1,641,965 1,642,018 1,642,054 1,642,055	812 917 917 901	1,643,775 1,643,804 1,643,805 1,643,808	832 924 924 850
1,630,782 1,630,786 1,630,818 1,630,881	619 627 598 522	1,633,383 1,633,392 1,633,462 1,633,466	545 860 557 797	1,635,055 1,635,167 1,635,168 1,635,169	607 860 860 797	1,637,661 1,637,703 1,637,726 1,637,790	974 787 830 789	1,640,182 1,640,202 1,640,218 1,640,223	827 806 781 961	1,642,078 1,642,079 1,642,089 1,642,092	916 916 830 904	1,643,809 1,643,810 1,643,826 1,643,922	912 850 905 847
1,630,985 1,630,999 1,631,036 1,631,052	734 527 512 517	1,633,485 1,633,534 1,633,594 1,633,604	777 908 774 591	1,635,193 1,635,212 1,635,216 1,635,301	789 655 771 763	1,637,791 1,637,795 1,637,822 1,637,831	789 820 820 767	1,640,224 1,640,251 1,640,314 1,640,315	798 785 778 778	1,612,180 1,642,192 1,642,206 1,642,209 1,642,238 1,642,244	924 857 926 828	1,643,938 1,643,962 1,644,097 1,644,107	895 966 848 897
1,631,062 1,631,070 1,631,071	675 622 675	1,633,617 1,633,621 1,633,626	776 556 797	1,635,320 1,635,332 1,635,381 1,635,453	727 786 726 689	1,637,831 1,637,838 1,637,851 1,637,868 1,637,877	819 809 819 775	1,640,363 1,640,364 1,640,415 1,640,444	885 885 806 771	1,642,238 1,642,244 1,612,263 1,642,309	\$20 907 903 913	1,644,112 1,644,113 1,644,115 1,644,131	930 930 854 842
1,631,139 1,631,252 1,631,280 1,631,401	551 611 619 548	1,633,652 1,633,683 1,633,730 1,633,731 1,633,736	621 774 552 552	1,635,519 1,635,567 1,635,594	770 788 771	1,637,972 1,637,975 1,637,990	764 959 829 786	1,610,478 $1,640,485$ $1,610,486$	886 783 784 781	1,642,320 1,642,347 1,642,348 1,642,349	827 820 820 820	1,644,146 1,644,161 1,644,244 1,644,246	900 896 878 860
1,631,421 1,631,468 1,631,493	622 675 607 528	1,633,751 1,633,790 1,633,805	552 787 603 561	1,635,628 1,635,637 1,635,853 1,635,667	600 746 658 641	1,638,005 1,638,011 1,638,021 1,638,022	973 961 961	1,640,487 1,640,502 1,640,506 1,640,562	804 893 884	1,642,358 1,642,359 1,642,370	819 820 919	1,644,250 1,644,254 1,644,267	842 858 836
1,631,512 1,631,524 1,631,536 1,631,544 1,631,573	715 524 605 512	1,633,826 1,633,835 1,633,839 1,633,840	561 556 783 791	1,635,679 1,635,681 1,635,707 1,635,718	721 622 797 771	1,638,045 1,638,057 1,638,061 1,638,076	809 962 740 784	1,640,574 1,640,596 1,640,602 1,640,612	784 872 877 963	1,642,457 1,642,485 1,642,511 1,642,535	799 969 919 814	1,644,324 1,644,331 1,644,340 1,644,344	900 898 863 882
1,631,589	597	1,633,866	773	1,635,759	609	1,638,093	806	1,640,639	797	1,642,537	921	1,644,370	882

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1,644,389 1,644,417 1,644,419 1,644,429 1,614,4320 1,614,431 1,644,431 1,644,441 1,644,416 1,644,416 1,644,516 1,644,516 1,644,516 1,644,516 1,644,516 1,644,516	882 852 852 852 852 847 847 832 893 873 873 894 897 860 898 868 868 896	1,644,764 1,644,828 1,644,851 1,644,951 1,645,061 1,645,061 1,645,098 1,645,192 1,645,112 1,645,112 1,645,114 1,645,141 1,645,193 1,645,141 1,645,193 1,645,193 1,645,193 1,645,193 1,645,193 1,645,193 1,645,193 1,645,233	934 912 922 898 868 935 881 881 881 893 881 912 973 860 880 880 880	1,645,242 1,645,293 1,645,366 1,645,366 1,645,363 1,645,363 1,645,763 1,645,760 1,645,861 1,645,861 1,645,962 1,645,963 1,645,963 1,645,963 1,645,963 1,645,963 1,645,963	952 \$81 896 882 868 900 923 935 896 916 868 874 874 874 931	1,645,974 1,645,990 1,645,997 1,646,014 1,646,058 1,646,079 1,646,157 1,646,298 1,646,221 1,646,230 1,646,211 1,646,230 1,646,230 1,646,230 1,646,230	870 89 ( 873 916 868 914 924 927 914 914 913 863 927 915 915 936	1,646,372 1,946,380 1,846,385 1,646,454 1,646,506 1,646,506 1,646,508 1,646,603 1,646,603 1,646,671 1,646,671 1,646,672 1,646,785 1,646,785 1,646,785	907 900 928 931 898 923 905 931 922 929 929 921 931 931 931 931 931	1,617,050 1,647,062 1,647,082 1,647,089 1,647,090 1,647,191 1,647,298 1,647,301 1,647,301 1,647,301 1,647,591 1,647,591 1,647,759 1,647,759 1,647,759	913 909 921 922 912 928 918 913 913 943 943 943 943 943 943	1,648,213 1,648,247 1,648,293 1,648,294 1,648,295 1,648,487 1,648,697 1,648,707 1,648,716 1,648,722 1,648,722 1,648,720 1,648,736 1,648,736 1,648,736 1,648,536 1,648,538	956 943 943 939 939 956 942 943 931 947 943 943 943 943 943 943 943 943 943 943

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392,935 393,993	345 345	432,851 432,894	182 229	433,819 433,853	180 228	485,530 435,573	398 323	436,533 436,535	386 387	437,813 437,836	468 406	439,115 439,154	619 605
396,426	340	432,903	207	433,855	245	435,575	291	1 436 537	404	137,891	632	439,171	658
398,093	330	432,921	199	433,978	210	435,587	323	436,539	405	437,909	498	439.204	591
206 210	467	439 939	175	433,983	362	435,589	330	436,671	482	437,910	440	439,226	.703
400,414 409,129 412,134 415,796 421,382	345	432,942 432,947 432,961	237	434,000	258	435,611	578	436,691	490	437,924	459	439,235	663
409,129	258	432,947	225	434,086	273	135,653	320	436,792	361	437,925	507	439,251	673
412,134	225	432,961	199	431,143	495	435,654	330	436,819	684 579	437,936	465 548	139,289 139,359	669 675
415,796	258 185	432,985 433,031	183 224	434,187 434,202	221 304	435,667 435,668	466 349	120,820	579	437,970 437,975	459	439,365	663
421,382 424,952	203	433,037	223	434,219	258	435,685	421	436,820 436,830 436,858	464	438,006	536	439,387	829
426,865	378	433,055	207	431,269	244	435,689	349	436,878	538	438,019	450	439,387 439,399 439,466	659
	233	433,098	286	434,278	218	435,692	350	436,882	462	438,037	440	439,466	828
427,780	500	433,099	285.	434,279	237	435 703	337	436,887	386	438,065	723	439,484	765
428, 131	190	433,102	286	434,318	305	435,701 435,713 435,714	337	436,890	531	438,071	467	139,498	666
430,365	468	433,103	275.	434,352	245	135,713	344	436,918	626	138,075	438	439,510 439,518	652 902
430,558	274 213	433,105 433,145	286 215	434,400 434,402	348 276	435,722	344 350	436,923 436,944	454 357	438,176 438,177	480	439,519	708
430,570	275	433,147	215	434,403	286	485,725	330	436,945	357	438,178	181	139,520	961
430,621	359	433,149	276	434,417	257	135 737	319	300 321.	468	138,180	518	439,521	854
480,669	798	433,150 433,151	277	434,419	305	435,747 435,748 435,753 435,755	338	436,997 436,999 437,010 437,043	482	438,186	467	439,523	780
430,901	211	433,151	277	434.568	258	135,748	339	136,999	128	438,199	758	139,540	G53
431,030	256	433,152	197	134,605	241	435,753	387	437,010	403	438,200	758	439,550	695
427,075 427,780 428,431 430,365 430,579 430,580 430,669 430,901 431,030 431,249 431,369	249	433,153	216	134,640	580	435,755	350	137,043	462	438,200 438,221 438,221 438,220 438,241 438,269 438,292 438,325	463	439,551	854 695
431,369 431,537	183 185	433,154 433,158	216 197	434,667 434,728	579 347	435,729 435,804	333 387	437,048 437,053	468 450	438,220	481 499	439,608 439,614 439,615 439,693	.901
431,554	176	433,159	182	434,729	341	435,815	311	437,078	611	138,269	167	139,615	795
431,622	223	433,162	262	434,779	254	435,835	419	137,099	466	438,292	563	439,693	660
431,622 431,744	275	433,163	261	434,794	258	435,837	330	437,113	440	138,325	650	439,690	974
431,773	212	433,181	210	434,795	291	435.890	633	437,115	452	1 455.526	572	439,712	695
431,775	275	433,218	224	434,796	258	435,899	363	437,131	678	438,327 438,328	573	139,765	965
431,776	213	433,236	215	434,829	391	435,913	412	437,154	501	438,328	573	439,766	702 660
431,777 431,845 431,862 431,987	197 196	433,237	466 225	434,830 434,922	348 298	435,917 435,931	490 491	437,159 437,173	459 633	438,378 438,392	964 632	439,777 439,804	696
431,340	184	433,244 433,276 433,277 433,293	216	434,923	298	435,973	732	437,173	517	138 190	467	439,834	653
431,987	190	433,277	212	434,924	258	435,975	400	437,210 437,245 437,257 437,258 437,258 437,276	728	438,460 438,461 438,467 438,472 438,554	675	439,962	822
432,110	215	433,293	237	431,948	337	436,077	404	437,257	463	138,161	675	440,001	792
432,110 $432,111$	214	433,319	277	434,979	387	436,084	491	437,258	464	138,167	550	440,037	854
432,112	212	133,351	481	434,983	298	436,092	491	437,276	167	438,172	727	440,043	777 974
432,113	215	433,352	481	134,985	298	136,093	583	407,022	467 583	438,558	172 527	440,052	783
432,178	212 197	133,364 433,366	181 184	434,988 434,997	324 265	436,149 436,161	535 509	437,336 437,352	448	438,624	607	440,099 440,122	824
432,216 432,232 432,237	224	433,376	189	435,013	211	436,170	482	437,355	426	138,713	617	440,169	770
432,237	210	433,387	238	435,028	303	436.182	411	437,371	480	120 022	512	140,196	786
432,274	195	433,432	274	435,077	333	436,240	383	437,371 437,451	460	438,834	530	440,227	77-1
432,303	224	433,154	188	435,092	407	436,241	480	437,481	455	438,834 438,836 438,841 438,843	660	440,237 440,298	800 779
432,305	224 194	433,455	104 190	435,093	288	436,242 436,366	436 463	437,482 437,183	671 464	138,841	648 770	140,398	770
432,305 432,305 432,394 432,426 432,472 432,485 432,511 432,520	359	433,478 433,479	190	435,109 435,116	338 525	436,367	463	437,502	490	438,849	599	140,334	778
132,472	265	433,519	482	435,155	298	436,368	352	437,507	509	438,879	524	440,335	786
132,185	197	433,520	218	435,155 435,170	337	436,368 436,360 436,405	388	437,507 437,515 437,532 437,532	423	438,929	512	440,337 440,338	777
432,511	225	433,520 433,522	188	435,210	291	136,405	422	437,532	450	438,935 438,944	708	410,338	813
432,520	127	433,523	467	435,212	298	436,438	490	437,552	450	438,944	813	440,341	974
402,070	211	433,524	210	435,229	543	436,439	491	437,000	496	138,981	573	110,379	960 777
432,580	210 182	433,525 433,526	188 218	435,265 435,266	299 298	436,440 436,444	490 404	437,561 437,563	491 465	139,005 139,006	596 695	440,341 440,379 440,380 410,381	769
432,000	515	133,527	275	435,305	290	436,445	392	137,598	462	139,000	661	110,382	777
432,683 432,712 432,723 432,723	190	433,556	233	435,346	388	436,446	421	437,612	452	139,010	695	440,389	924
432,724	189	433,586	189	435,347	347	436,515	549	437,637	459	439,011	770	440,401	825
482,727	259	433,646	286	435,389	811	436,516	379	437,646	452	439,042	714	440,102	848
482,728	468	433,653	233	435,515	538	436,518	378	437,670	530	439,043	974	440,568 440,606	798 905
432,744	181 223	433,666 433,733	218 361	435,517 435,527	385 814	436,519 486,521	460 128	437,689 437,727	440 480	439,044 439,077	596 663	110,606	504
482,795 432,815	196	433,734	210	435,528	330	136,522	359	437,727	723	439,111	964	110,623	965
432,827	.223	433,742	233	435,529	348	436,526	470	437,782	480	439,114	769	110,657	81::
		1	] []	[	1	1		1	[l	1	<u> </u>		
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No. of	Page.	No. of	Page.	No. of	Page.	No. of	Page,	No. of	Page.	No. of	Page.	No. of	Page.
Patent.		Patent.	B.	Patent.	B.	Patent.	B.	Patent.	B.	Patent.	B.	Patent.	B.
410,747 440,755 410,769 440,771 440,772 440,795 440,800 440,813 440,843 440,844 440,841	814 966 965 805 925 925 968 800 800 815 811 903 814	410,978 410,979 410,996 441,000 411,002 411,003 441,053 441,153 441,163 441,164 411,164 411,178 411,179	965 830 965 959 924 924 905 965 861 903 924 814 903	411,213 411,223 411,224 411,258 411,259 411,260 441,269 441,262 441,325 441,326 441,327 441,326 441,327	826 820 815 959 815 965 812 924 905 905 905 819 820	441,383 441,392 441,424 441,432 441,433 441,455 441,457 441,457 441,530 441,530 441,630 441,630	\$53 \$11 \$12 924 924 \$35 835 857 \$35 \$19 901 \$93	441,697 441,736 441,740 441,832 411,865 141,888 441,911 441,912 441,944 441,944 441,944 442,024 442,037	921 965 847 848 850 957 888 849 847 847 848 965	412,046 412,166 412,176 412,255 412,353 412,358 442,368 442,412 412,504 442,504 412,535 412,635	949 876 877 966 866 863 960 849 897 957	412,596 412,644 412,646 412,650 412,706 412,717 412,833 412,833 412,965 442,966 443,010 443,130	907 914 906 947 907 907 944 948 948 914 937 944

# FRENCH PATENTS.

Note. The letter "A" indicates an addition to the patent.

No. of Paper						•								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	No. of Patent.	1										- 1		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	530,490A	245	605.226	379	607.965	185	609,404	252	610.417	296	612,094	411	615,325	846
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	556,211A	422	605,661	553	608,026	221	609,422	391	610.448	357	612,129	966	615,349	649
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	561.614A	362	606,189	435	608,062	428	609,426	391	610,454	779	612,142	481	615,381	653
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	570.552	459	606,190		608,097	538	609,518		610,498	291	612,227			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	575,431		606,214		608,101		609,510		610,499		612,238			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	578,564A	956	606,487		608,114		609,548		610,519		612,282			850
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	579,207		606,605		608,123	182	609,678		610,520	299	612,338			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	579,277		606,783		608,154		609,720		610,539		612,345		615,749	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	579,472		606,793		608,171		609,723		610,572		612,391		615,750	835
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	581,173		000,817		008,180		009,728		010,010		612,394		010,800	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	589.400		606 807	1210	008,130	107	000,731	070	610,675		612,401		615.870	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	583 856	380	606,900		608 309		609.765		610,734	398	612,403			957
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	586.383		606,914		608.332		609,766		610,800		612,477		615.942	856
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	587,202	758	606,932		608,390	265	609.768		610,879	466	612,486		616,121	8.17
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	587,203	758	606.952		608,391	829	609,806		610,906		I 612.548		616,286	777
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	587,686A	398	606,959	197	608,402	448	609,814	290	610,936	298	612,583	791	616,401	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	590,901		606,962	236	608,415	388	609,842	258	610,956		612,732			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	592,272		606,969	552	608,422	245	609,844		611,004	104	612,790		616,533	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	593,648		607,059		608,425		609,880		611,017		612,879			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	593,649		607,0594		608,601		609,881		611,095	330	612,880		616,641	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	093,600 504.101	346	607,108	194	608,615	265	609,904		611,106		612,932		616,849	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	504,121	240		510	008,010		609,931	202	611,114	209	612,940			890
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	594.865		607,133		608 658		609,003		611 137		613.046		617,013	8.16
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	595,954	758	607 259	188	608,659		600,934	301	611 139		613 074		617 210	857
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	595,974	536	607.260	188	608,730	210	609,935	391	611.141	330	613.089		617,211	902
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	596,147A	658	607,261	188	608,903		609,936		611,236		613,123		617,225	835
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	596,198	791	1 607.266	184	608,928	388	609,985	391	611,264	416	613,492	822	617,235	814
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	596,552		607,269	273	608,930		609,986		611,289		613,509		617,237	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	596,918		607,279		608,957		609,987			362			617,285	894
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	598,447		607,296		609,057	265	609,988		611,405	372	613,517	661	617,361	835
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	598,502A		607,381	194	609,100	217	609,989		611,417	181	613,596		617,481	866
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	600,311		607,402		609,108	228	610,010		611,457	330	613,677			832
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	601,100	037	607.450		609,109		610,021						617,600	903
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	601,612	919	607,537	198			610 140		611.659		613 870		617 739	965
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	601,709		607,546	140		231	610 141		611,663	589	613 884		617.870	894
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	601,919*		607,632		609,191				611,670		613,922		617.945	922
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	601,919†	851	607,655	197	609,259		610,160	251	611,671	830	1 614.037		618,425.	881
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	602,007		607.661	195	609,264	252	610,181	391	611,672		614,229	597	618,560	876
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	602,113	223	607,672	211	609,264A		610,182	391	611,699		614,442		619,029	629
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	602,243	538	607,683	210	609.277		610,183		611,731	457	614,553		619,080	928
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	602,866		607,688		609,295	241	610,184	391	611,810		614,862		619,168	929
604,450   $212$    $607,829$   $194$    $609,361$   $601$    $610,308$   $407$    $612,081$   $970$    $615,149$   $769$    $619,858$   $953$	603,123	964	607,726		609,327	606	610,185		611,899					
604,450   $212$    $607,829$   $194$    $609,361$   $601$    $610,308$   $407$    $612,081$   $970$    $615,149$   $769$    $619,858$   $953$	604,347		607,735		609,336		610,261		611,994					912
605,127   964   607,915   238	004,443		007,828			244	610,282	348	612,036	130			619,828	052
440) III	605 197	964	607 915	335	009,301	601	010,308	107	012,081	310	010,149	709	010,508	333
	000,127	304	301,510	200					1					1

• Addition ii.

† Addition iii.

# NORWEGIAN PATENT.

No. of	Page.
Patent.	B.
40,618	409

# SWISS PATENTS.

No. of Patent.	Page.	No. of Patent.	Page. B.	No. of Patent.	Page.	No. of Patent.	Page.	No. of Patent.	Page. B.	No. of Patent.	Page. B.	No. of Patent.	Page.
111,120 111,562 113,251 113,922 114,271 114,438 114,655	156 470 398 518 216 536 210	114,677 114,699 114,913 114,997 115,100 115,114 115,116	185 188 470 257 503 647 305	115,203 115,305 115,536 115,676 115,701 115,702	265 264 699 296 361 330	115,884 115,920 116,016 116,162 116,163 116,465	333 424 257 311 311 829	116,630 116,958 116,999 117,136 • 117,203 117,304	452 626 663 811 865 866	117,310 117,568 117,570 117,715 117,718 117,768	851 894 894 894 909 859	117,957 117,969 118,083 118,501 118,710 118,714	966 964 850 913 944 937

# CANADIAN PATENTS.

No. of Patent.	Page,	No. of Patent.	Page.	No. of Patent.	Page, B.	No. of Patent.	Page.	No, of Patent.	Page. B.	No. of Patent.	Page. B.	No. of Patent.	Page. B.
247,610 258,201 258,227 258,626 259,391	103 273 378 393 265	259,411 259,412 259,884 260,226 260,227	577 577 218 210 210	260,248 260,376 260,931 261,588 261,617	393 215 388 436 462	261,891 262,339 262,601 263,017	298 182 403 866	263,180 263,193 263,352 263,549	777 846 778 815	263,596 264,172 264,324 264,342	778 819 961 892	261,357 261,697 264,747 264,956	877 842 960 946

#### AUSTRALIAN PATENTS.

No. of	Page.	No. of	Page.
Patent.	B.	Patent.	B.
20,366	577	22,041	726
20,811	336	22,518	677

#### AUSTRIAN PATENTS.

No. of Patent.	Page,	No. of Patent.	Page. B.	No. of Patent.	Page.	No. of Patent.	Page.	No. of Patent,	Page,	No. of Patent.	Page. B.	No of Patent .	Page. B.
100,211 101,681 102,663 102,956 103,613 103,622 103,630 102,708	429 183 190 199 185 296 188 227	103,714 103,897 103,903 103,904 103,911 103,913 103,918 103,995	211 825 260 195 277 310 264 288	103,996 104,007 164,009 104,110 101,137 104,143 104,148 104,237	288 339 337 577 696 626 333 579	104,238 104,239 104,385 104,390 104,395 104,397 104,398 104,402	579 579 698 705 407 628 420 401	101,404 104,111 104,738 104,741 104,745 105,084 105,341 105,348	389 381 484 622 483 621 901 801	105,353 105,356 105,359 105,361 105,362 105,680 105,701 105,704	811 786 825 966 805 913 913	105,784 105,785 105,794 105,797 106,021 106,083 106,211 106,326	953 953 947 912 913 929 913 912

#### DANISH PATENTS.

No of	Page.
Patent.	B.
34,077	387
34,370	678
34,635	705

#### DUTCH PATENTS.

No. of	Page.	No. of	Page,
Patent.	R.	Patent.	B.
14,494	856	15,167	770
14,653	836	15,202	387
15,039	650	15,378	330
15,083	597	15,635	628

#### JOURNALS FROM WHICH ABSTRACTS ARE MADE.

The following is a list of the principal Journals from which abstracts are made (directly or indirectly) by the Bureau of Chemical Abstracts. Further information regarding any of these Journals may be obtained from the Secretary of the Bureau.

Chemical Abstracts.	Eurther information regarding any of the	se Journais may be onto	aned from the Secretary of the Bureau.
ABBREVIATED TITLE.	Journal.	ABBREVIATED TITLE.	Journal.
Abh. Böhm. Akad	Abhandlungen der Böhmischen Akademie.	Ber. Deut. bot. Ges	Beriehte der Deutschen botanischen
Acta Phytochim	Acta Phytochimica.	Der. Deat. bot. des	Gesellschaft.
Acta Sci. Fennicae .	Acta Societatis Scientiarum Fennicae.	Ber. Deut. pharm.	Berichte der Deutschen pharmazeutischen
Agric. J. India .	Agricultural Journal of India.	Ges	Gesellschaft.
Agric. Res. Inst.,	Agricultural Research Institute, Pusa,	Ber. Oberhess. Ges.	
Pusa, Rep. (Bull.).	Reports and Bulletins.	Natur. Heilkunde .	für Natur- und Heilkunde zu Giessen.
Allgem. Z. Bierbrau.	Allgemeine Zeitschrift für Bierbrauerei	Ber. Ohara Inst.	Berichte des Obara Instituts für land-
8	und Malzfabrikation.	landw. Forsch	wirtschaftliche Forschungen.
Amer. J. Bot	American Journal of Botany.	Ber. Sächs. Akad.	Berichte über die Verhandlungen der
Amer. J. Dis. Children	American Journal of Diseases of Children.	Wiss	Sächsischen Akademie der Wissen-
Amer. J. Pharm	American Journal of Pharmacy.	·	schaften zu Leipzig.
Amer. J. Physiol	American Journal of Physiology.	Berlin, Klin, Woch.	Berliner Klinische Wochenschrift
	American Journal of Public Health.	Bied. Zentr	Biedermann's Zentralblatt.
Amer. J. Sci		Biochem. J	Biochemical Journal.
	American Mineralogist.	Biochem. Z.	Biochemische Zeitschrift.
	Anales de la Asociación Química Argen-	Bol. Acad. Nac. Cien-	Boletin de la Academia Nacional des
Argentina	tina.	cias, Cordoba	Ciencias, Cordoba.
Anal. Fis. Quim.	Anales de la Sociedad Española de	Boll Chim. farm,	
Analyst	Física y Química.	Boll. Soc. Geel. Ital Boll. Soc. Mcd	
4 °,	Analyst. Justus Liebig's Annalen der Chemie.	Chirurg.	Pavia.
Annalen	Annals of Botany.	Boll. Uff. Staz.	
Ann. di Bot.	Annali di Botanica.	Sperim. Ind. Pelli	delle Pelli e delle materie concianti,
Ann. Chim.	Annales de Chimie.	openiar increase	Bollettino Ufficiale.
Ann. Chim. Analyt	Annales de Chimie Analytique et de	Bot. Gaz	Botanical Gazette.
,	Chimie Appliquée.	Brass. Malt	Brasserie et Malterie.
Annali Chim. Appl	Annali di Chimica Applicata.	Brau- u. Malzind	Brau- u. Malzindustrie.
Ann. Falsif.	Annales des Falsifications.	Braunkohle	Braunkohle.
Ann. Inst Pasteur .	Annales de l'Institut Pasteur.	Brennstoff-Chem	Brennstoff-Chemie.
Ann. Physik	Annalen der Physik.	Brewers' J	Brewers' Journal.
Ann. Physique .	Annales de Physique.	Brit. J. Phot	British Journal of Photography.
Ann. R. Staz. Chim.	Annali della R. Stazione Chimico Agraria	Brit. Med. J.	British Medical Journal.
Agrar. Sperim.	Sperimentale di Roma.	Buletinul Chim.	Buletinul Chimie.
Ann. sci. Univ. Jassy.	Annales scientifiques de l'Université de	Bul. Soc. Chim.	
ApothZtg	Jassy. Apotheker-Zeitung.	România	România. Buletinul Societatii Romane de Stiinte.
Arb. Gebiet. Physik,	Arbeiten aus dem Gebiete der Physik,	Stiin.	Duletinui Societatii Ivomane de Stimte.
Math., Chem.	Mathematik und Chemie.	Bull. Acad. roy. Belg.	Académic royale de Belgique—Bulletin
	Archiv für experimentelle Pathologie und	2011. 11caa. 103. 2016.	de la Classo des Sciences.
Pharm.	Pharmakologie.	Bull. Acad. Sci.	Bulletin de la Scction Scientifique de
	Archivio di Farmacologia sperimentale e	Roumaine	l'Académic Roumaine.
Sci. aff	Scienzo affini.	Bull. Assoc. Chim.	Bulletin de l'Association des Chimistes de
Arch. Int. Med	Archives of Internal Medicine.	Sucr.	Sucrerie et de Distillerie.
Arch. Med. Pharm.	Archives de Médicine et de Pharmacie		Bulletin of the Bureau of Standards
milit	militaires.	Standards	(U.S.A.).
Arch. Néerland	Archives Néerlandaises de sciences		Bulletin of the Chemical Society of Japan.
Assh NY-land show	exactes et naturelles.	Japan	TO DO AND TRANSPORT TO SERVICE
iol.	Archives Néerlandaises de physiologie de		Bulletin of the Forest Experiment
Arch. Pharm	l'homme et des animaux. Archiv der Pharmazie.	Stat. Meguro	Station, Meguro, Tokyo. Bulletin of the U.S. Geological Survey.
Arch Sci. phys. nat	Archives des Sciences physiques et natu-	U.S.A.	Duneum of the C.B. deological but vey.
men ben phys. nat	relles.	Bull. Imp. Inst	Bulletin of the Imperial Institute.
Arch, Suikerind, Ned.	Archief voor de Suikcrindustrie in Neder-	Bull. Inst. Phys.	Bulletin of the Institute of Physical and
Indië		Chem. Res., Japan	Chemical Research, Japan (Rik-
Arkiv Kemi, Min.,	Arkiv för Kemi, Mineralogi och	<b></b> 2000, 0 apan	wagaku Kerkyujo Ihō).
Geol	Geologi.	Bull. Inter. Acad.	Bulletin International de l'Académie
Astrophys. J	Astrophysical Journal.	Polonaise	Polonaise des Sciences et des
Atti R. Accad. Lincci	Atti della Reale Accademia Nazionale		Lettres.
	dei Lincei.	Bull. Johns Hopkins	Bulletin of the Johns Hopkins Hospital.
Atti R. Accad. Sci.	Atti della Reale Accademia delle Scienze	Hosp.	
Terino .	di Torino.	Bull. School Mines	Bulletin of the School of Mines and
Austral. J. Exp. Biol.	Australian Journal of Experimental	and Met., Univ.	Metallurgy, University of Missouri.
B.P.	Biology and Medicine.	Missouri	Dullatin des Caismess Dhammasal-
D.	British Patent. Berichte der Deutschen chemischen	Bull. Sci. Pharmacol Bull. Soc. chim.	Bulletin des Sciences Pharmacologiques.
Ber	Deriente der Deutsehen enemisenen	Dun. Soc. chim	Bulletin de la Société chimique de

France.

Gesellschaft.

	VOORWINDS FROM WILLIAM		
ABBREVIATED TITLE. Bull. Soc. chim. Belg.	JOURNAL. Bulletin de la Société chimique de Belgique.	ABBREVIATED TITLE. Jahrb. geol. Reichsanst.	Journal. Jahrbuch der geologischen Reichsanstalt.
Bull. Soe Chim. biol.	Bulletin de la Société de Chimie bio-	Jahrb. Min.	Neues Jahrbuch für Mineralogie, Geologie
Bull. Soc. d'Encour	logique. Bulletin de la Société d'Encouragement	Jahrb. Min. BeilBd.	und Paläontologie. Neues Jahrbuch für Mineralogie, Geologie
Bull. Soc. Franç. Phot.	pour l'Industrie Nationale. Bulletin de la Société Française de Photographie.	Jahrb. Radioaktiv	und Palaeontologie, Beilage-Band. Jahrbuch der Radioaktivität und Elek tronik.
Bull. Soc. Ind. Mul- house	Bulletin de la Société Industrielle de Mulhouse.	Jahrb. wiss. Bot Jahresber. Ges.	Jahrbuch für wissenschaftliche Botanik. Jahresbericht der schlesischen Gesell
Canada Dept. Mines Publ.	Canada Department of Mines Publications.	vaterl. Kultur . Japan. J. Med. Sci	schaft für vaterländische Kultur.  Japanese Journal of Medical Sciences.
Canadian Chem. Met. Caoutchouc et Gutta-	Canadian Chemistry and Metallurgy. Le Caoutchouc et le Gutta-Percha.	Japan. J. Phys Jernk. Ann	Japanese Journal of Physics. Jern-kontorets Annaler.
Percha Cellulosechem	Cellulosechemie.	J. Agric. Res J. Agric. Sci	Journal of Agricultural Research. Journal of Agricultural Science.
Centr. Min	Centralblatt für Mineralogie, Geologie und Paläontologie.	J. Amer. Coram. Soc. J. Amer. Chem. Soc.	Journal of the American Ceramic Society Journal of the American Chemical Society
Cereal Chem	Cereal Chemistry.	J. Amer. Leather	Journal of the American Leathe
Chem. Ago	Chemical Age. Chemische Apparatur.	J. Amer. Mod. Assoc.	Chemists' Association.  Journal of the American Medical Asso
Chem. Erdo	Chemie der Erde.	0.111101.1204.120001	ciation.
Chem, and Ind.	Chemistry and Industry.	J. Amer. Pharm.	
Chem. Ind Chem. Listy	Chemische Industrie. Chemiské Listy pro Vědu a Průmysl.	Assoc. J. Assoc. Off. Agric.	Association.  Journal of the Association of Officia
2.20 · · ·	Organ do la "Ceská chemická	Chem.	Agricultural Chemists.
Cham and Mat Fra	Společnost pro Vedu a Průmysl."	J. Biol. Chem.	Journal of Biological Chemistry.
Chem. and Met. Eng	Chemical and Metallurgical Engineer- ing.	J. Canad. Min. Inst J. Chem. Met. Soc. S.	Journal of the Canadian Mining Institute Journal of the Chemical, Metallurgical
Chem. News	Chemical News.	Africa	and Mining Society of South Africa
Chem. Trade J	Chemical Trade Journal.	J. Chem. Soc. Japan.	Journal of the Chemical Society of Japan (Nippon Kwagaku Kwai Shi.)
Onem, Omschau	Chemische Umschau auf dem Gebiete der Fette, Oele, Wachse, und Harze.	J. Chim. phys	Journal do Chimie physique.
Chom. Weekblad .	Chemisch Weekblad.	J. Coll. Agric. Hok-	Journal of the College of Agriculture
Chem. Ztg	Chemiker-Zeitung. Chemisches Zentralblatt.	kaido	Hokkaido Imperial University Japan.
Chim. et Ind	Chimie et Industrie.	J. Coll. Agric. Tokyo .	Journal of the College of Agriculture
Collegium	Collegium.		Imperial University of Tokyo, Japan
Compt. rend. Soc.	Comptes rendus hebdomadaires des Séances do l'Académie des Sciences, Comptes rendus hebdomadaires de	J. Coll. Eng. Tokyo	Journal of the College of Engineering Imperial University of Tokyo. Journal of the College of Science, Imperia
Biol. Compt. rend. Trav.	Séances de la Société de Biologie.	J. Coll. Sci. Tokyo .	University of Tokyo.  Journal of Experimental Medicine.
Lab. Carlsberg .	Comptes rendus des Travaux du Labora- toire Carlsberg.	J. Exp. Med J. Franklin Inst	Journal of the Franklin Institute.
Dansk Tidsskr. Farm.	Dansk Tidsskrift for Farmaci.	J. Gen. Physiol	Journal of General Physiology.
Dept. Chem. S. Australia, Bull.	Department of Chemistry, South Australia, Bulletins.	J. Geol J. Geol. Soc. Tokyo .	Journal of Geology. Chishitsugaku Zasshi (Journal of the
Deut. med. Woch	Deutsche medizinische Wochenschrift.	0. deol. boc. Tokyo .	Geological Society of Tokyo).
Econ. Geol.	Economic Geology.	J. Hygiene	Journal of Hygiene.
Econ. Proc. Roy. Dubl. Soc. Engineering	Dublin Society.	J. Indian Chem. Soc.	Quarterly Journal of the Indian Chemica Society. Journal of the Indian Institute of Science
Eng. and Min. J.	Engineering and Mining Journal.	J. Indian Inst. Sci J. Ind. Hygiene .	Journal of Industrial Hygiene.
F.P.	French Patent.	J. Inst. Brewing .	Journal of the Institute of Browing.
Farben-Ztg	Farben-Zeitung. Fermentforschung.	J. Inst. Metals J. Inst. Petroleum	Journal of the Institute of Metals.  Journal of the Institution of Petroleur
Feuerfest	Feuerfest.	Tech.	Technologists.
Feuerungstechnik .	Feuerungstechnik.	J. Iron and Steel Inst.	Journal of the Iron and Steel Institute.
G.P	German Patent. Gas Journal.	J. Jap. Ceram. Assoc.	Journal of the Japanese Ceramic Association.
Gas- u. Wasserfach .	Gas- und Wasserfach.	J. Landw.	Journal für Landwirtschaft.
Gas World Gazzetta	Gas World.	J. Marine Biol. Assoc.	Journal of the Marine Biological Association of the United Kingdom
Geol. Mag.	Gazzetta chimica italiana. Geological Magazine.	J. Med. Res	ciation of the United Kingdom.  Journal of Medical Research.
Giorn. Chim. Ind.	Giornale di Chimica Industriale ed	J. Min. Agric	Journal of the Ministry of Agriculture.
Appl	Applicata. Gummi-Zeitung.	J. Path. Bact	Journal of Pathology and Bacteriology.  Journal of the Optical Society of America
Hawaii Agric. Exp.		J. Opt. Soc. Amer J. Pharm. Chim	Journal de Pharmacie et de Chimie.
Stat. Bull. Helv. Chim. Acta	Bulletins.	J. Pharm. Exp. Ther.	Journal of Pharmacology and Experi
Indian J. Med. Res India-rubber J.	Helvetica Chimica Acta. Indian Journal of Medical Research. India-rubber Journal.	J. Pharm. Soc. Japan	mental Therapeutics.  Journal of the Pharmaceutical Society of Japan. (Yakugakuzasshi.)
Ind. Eng. Chem.	Industrial and Engineering Chemistry.	J. Physical Chem	Journal of Physical Chemistry.
_ Agric.	International Review of the Science and Practice of Agriculture.	J. Physiol. J. Physiol, Path. gén.	Journal of Physiology. Journal de Physiologie et de Pathologi
Int. Sugar J	International Sugar Journal.		générale.
negie Schol. Mem.	Scholarship Memoirs.	J. Phys. Radium . J. Pomology	Journal de Physique et le Radium, Journal of Pomology and Horticulturs
J.C.S	Journal of the Chemical Society.	ŧ.	Science.

ABBREVIATED TITLE.	Journal.	ABBREVIATED TITLE.	Journal.
f. pr. Chem	Journal für praktische Chemie.	Mitt. Materialprüf	Mittheilungen aus dem Materialprüfungs-
Proc. Asiatic Soc.	Journal and Proceedings of the Asiatic		amt zu Gross-Lichterfelde West.
Bengal	Society of Bengal.	Mitt. med, Ges. Tekyo	Mittheilungen der medizinischen Gesell
. Proc. Roy. Soc. New South Wales .	Journal and Proceedings of the Royal Society of New South Wales.	Mitt. Naturforsch.	schaft zu Tokyo. Mittheilungen der Naturforschenden
Roy. Agric. Soc.	Journal of the Royal Agricultural Society.	Ges. Halle	Gesellschaft zu Halle.
Roy. Hort. Soc.	Journal of the Royal Horticultural	Mitt. Path. Inst. K.	
,	Society.	Univ. Japan .	Institut der Kaiserlichen Universität
Roy. Soc. West	Journal of the Royal Society of West	l	zu Sendai, Japan.
Australia	Australia.	Monatsh	Monatshefte für Chemie und verwandt
Roy. Tech. Coll		Mon. Sci.	Teile anderer Wissenschaften.
Ruse Phys Chem	(Glasgow).  Journal of the Physical and Chemical	Month. Not. Roy.	Moniteur Scientifique.  Monthly Notices of the Royal Astro-
Soc.	Society of Russia.	Astr. Soc.	nomical Society, London.
Scot. Met. Soc	Journal of the Scottish Meteorological	Münch. med. Woch	Münchener medizinische Wochenschrift.
	Society.	Nachr. Ges. Wiss.	Nachrichten von der Gesellschaft der
Soc. Arts	Journal of the Royal Society of Arts.	Göttingen	Wissenschaften zu Göttingen.
S.C.T.	Journal of the Society of Chemical	Nature Natuurwetensch.	Nature. Natuurwetenschappelijk Tijdschrift.
Soc Chem Ind.	Industry.  Journal of the Society of Chemical	Tijds.	Natural wetensenappenja 11 jusem 11.
Japan	Industry, Japan. (Kōgyō Kwagaku	Naturwiss	Die Naturwissenschaften.
	Zasshi.)	Naturw. Rdsch	Naturwissenschaftliche Rundschau.
Soc. Dyers and Col.	Journal of the Society of Dyers and	New York Agr. Expt.	New York Agricultural Experiment
	Colourists.	Sta. Bull.	Station Bulletins.
Soc.Leather Trades '		New Zealand Domin-	
Chem.	Chemists.	ion Laby, Rept New Zealand J. Sci.	Reports.  New Zealand Journal of Science and
Soc. Glass Tech	Journal of the Society of Glass Tech- nology.	Tech.	Technology.
S. African Chem.	Journal of the South African Chemical	Nova Acta Soc. Sci.	Nova Acta Regiae Societatis Scientiarun
Inst.	Institute.		Upsaliensis.
State Med	Journal of State Medicine.	Öfvers. Finska Vet	Öfversigt af Finska Vetenskaps-Societé
	Journal of the Textile Institute.	Soc.	tens Förhandlingar, Helsingfors.
Usines Gaz		Oesterr. Chem. Ztg	Oesterreichische Chomiker-Zeitung.
Sci	Journal of the Washington Academy of Science.	Oversigt Danske Vid. Selsk.	Oversigt over det Kongelige Dansk Videnskabernes Selskabs Forhand
	Journal of the West of Scotland Iron and	DCISK.	lingar.
Steel Inst.	Steel Institute.	Paper	Paper.
ali	Kali.	Papier-Fabr	Papier-Fabrikant.
	Kongliga Svenska Vetenskaps Aka-	Perf. & Essent. Oil Rec.	Perfumery and Essential Oil Record.
Akad. Handl.	demiens Handlingar.	Petroleum	Petroleum (German).
Bull.	Kentucky Experimental Station, Bulletin.	Pflüger's Archiv .	Archiv für die gesamte Physiologie de Menschen und der Thiere.
eram. Rundsch.	Keramisch Rundschau.	Pharm. J	Pharmaceutical Journal.
ew Bull.	Kew Bulletin.	Pharm. Weekblad .	Pharmaceutisch Weekblad.
olloid-Z	Kolloid-Zeitschrift.	Pharm. Zentr	Pharmazeutische Zentralhalle.
olloidchem. Beih.	Kolloidchemische Beihefte.	Philippine J. Sci.	Philippine Journal of Science.
unststoffe		Phil. Mag	Philosophical Magazine (The London
ancet	The Lancet. Landwirtschaftliche Jahrbücher.	Phil. Trans	Edinburgh, and Dublin). Philosophical Transactions of the Royal
indw. Jahrb		rnn. Irans	Society of London.
Stat.	Stationen.	Phot. J	Photographic Journal.
ouisiana Planter	Louisiana Planter.	Phot. Korr	Photographische Korrespondenz.
ılay. Agric. J	Malayan Agricultural Journal.	Physica	Physica.
	Meddelanden från Kongl-Vetenskaps-	Physical Rov.	Physical Review.
akad. Nobel-Inst.	akademiens Nobel-Institut.	Physikal. Z	Physikalische Zeitschrift.
edd, on Grönland . ed. Genees. Lab.	Meddelser on Grönland. Mededeelingen uit het Geneeskundig	Proc. Amer. Acad. Arts Sci.	Proceedings of the American Academy o Arts and Sciences.
Weltevreden	Laboratorium te Weltevreden.	Proc. Amer. Phil. Soc.	Proceedings of the American Philo
em. Acead. Lincei.	Memorie della Reale Accademia dei	2100, 2300, 2300	sophical Society.
	Lincei.	Proc. Amer. Physiol.	Proceedings of the American Physic-
	Memorie della Reale Accademia delle	Soc.	logical Society.
Torino	Scienze di Torino.	Proc. Amer. Soc. Biol.	
	Memoirs of the College of Agriculture,	Chem.	Biological Chemists.
Kyoto	Kyoto Imperial University.		Proceedings of the American Society of
com but Ryoto	Memoirs of the College of Science, Kyoto Imperial University.	Eng. Proc. Amer. Soc.	Civil Engineers.  Proceedings of American Society for
em. Dept. Agric.	Memoirs of the Department of Agriculture	Testing Materials .	Testing Materials.
India	in India.	Proc. Austral. Inst.	Proceedings of the Australasian Institute
em. Manchester Phil.	Memoirs and Proceedings of the Man-	Min. Met.	of Mining and Metallurgy.
Soc.	chester Literary and Philosophical	Proc. Camb. Phil. Soc.	
m Douglas	Society.	Dona Donal Com Di 1	sophical Society.
em. Poudres			Proceedings of the University of Durhan
etall u. Erz	Metall und Erz. Metallurgic.	Soc. Proc Eng Soc W Pa	Philosophical Society.  Proceedings of the Engineers' Society o
	Metropolitan Water Board Reports.	Troc. Bug. Soc. W. Pa.	Western Pennsylvania.
Rep.		Proc. Imp. Acad.	
ilch. Zentr	Milchwirtschaftliches Zentralblatt.	Tokyo	(Tokyo).
in. Mag.	Mineralogical Magazine and Journal of	Proc. Inst. Civ. Eng	Proceedings of the Institution of Civil
	the Mineralogical Society.	1	Engineers.

ABBREVIATED TITLE. JOURNAL. Proc. Inst. Mech. Eng. Proceedings of the Institution of Mechanical Engineers. Koninklijke Akademie van Wetenschap-Proc. K. Akad. Wetensch. Amsterpen to Amsterdam. Proceedings (English version). dam Proc. Nat. Acad. Sci.. Proceedings of the National Academy of Sciences. Proc. Nova Scotia Proceedings of the Nova Scotia Institute Inst. Sei. of Science. Proc. Phil. Soc. Glas-Proceedings of the Glasgow Philosophical Society. gow Proc. Physical Soc. . Proceedings of the Physical Society of London. Proceedings of the Physiological Society. Prec. Physiol. Soc. Proc. Roy. Inst. Proceedings of the Royal Institution of Great Britain. Proc. Roy. Irish Acad. Proceedings of the Royal Irish Academy. Proc. Roy. Soc. Proceedings of the Royal Society. Proc. Roy. Soc. Edin. Proceedings of the Royal Society of Edinburgh. Proc. Roy. Soc. Med.. Proceedings of the Royal Society of Medicine. Roy. Proc. Soc. Proceedings of the Royal Society of Queensland Queensland. Proc. Roy. Soc. Tas-Proceedings of the Royal Society of Tasmania mania. Proc. Sci. Assoc., Proceedings of the Science Association, Vizianagram Maharajah's College, Vizianagram. Proc. Soc. Exp. Biol. Proceedings of the Society for Experi-Med. mental Biology and Medicine. Proceedings of the United States National Proc. U.S. Nat. Mus. . Museum. Sci. Publications de la Faculté des Sciences de l'Université Masaryk (Spisy Fac. Univ. Masaryk. vydávané Prírodovědeckou Facoultou Masarykovy University). Pulp and Paper Magazine of Canada. Quarterly Journal of the Geological Pulp and Paper Mag. Quart. J. Geol. Soc. . Society. Quart. J. Med. Quarterly Journal of Medicine. Rec. Australian Mus. Records of the Australian Museum. Rec. trav. bot. Néer-Recueil des travaux botaniques Néerland landaises. Rec. trav. ehim. Recueil des travaux chimiques des Pays-Bas. Rend. Accad. Sci. Fis. Rendiconto dell' Aceademia delle Scienze Fisiche e Matematiche, Napoli. Rendiconti dell' Reale Istituto Lom-Mat. Napoli Rend. Ist. Lomb. Sci. Lott. bardo di Scienze e Lettere. Rep. Aust. Assoc. Sci. Report of the Australian Association for the Advancement of Science. Rep. Brit. Assoc. Report of the British Association for the Advancement of Science. Rev. chim. Revue chimique . . . Oficijelni organ udruženja Jugoslavenskih Kemičara. Rev. gén. Colloïd. Revue générale des Colloïdes. Rev. Ğén. Mat. Col. . Revue Générale des Matières Colorantes. Rev. Mét. Revue de Métallurgie. Rocz. Chem. Roczniki Chemji organ Polskiego Towarzystwa Chemicznego. Schweiz. Chem.-Ztg. . Schweizerische Chemiker-Zeitung. Science Science. Sci. Ind. Rep. Roure-Scientific and Industrial Reports of Bertrand Fils Roure-Bertrand Fils. Sci. Papers Inst. Phys. Scientific Papers of the Institute of Chem. Res. Tokyo Physical and Chemical Research, Tokyo. Sci. Proc. Roy. Dubl. Scientific Proceedings of the Royal Dublin Soc. Sci. Rep. Society. Tôhoku Science Reports, Tôhoku Imperial Uni-Imp. Univ. versity. Scientific Transactions of the Royal Sci. Trans. Roy. Dubl. Soc. Dublin Society. Sitzungsber. Akad. Sitzungsberichte der Akademie der Wiss. Wien Wissenschaften, Wien. Sitzungsberichte der Heidelberger Aka-Sitzungsber. Heidel-

demie der Wissenschaften.

Sitzungsberichte der Preussischen Aka-

demie der Wissenschaften zu Berlin.

berger Akad. Wiss.

Akad. Wiss. Berlin

Sitzungsber. Preuss.

ABBREVIATED TITLE. Soil Sci. Soil Science. Sprechsaal Sprechsaal. Stahl u. Eisen . Stahl und Eisen. Stain Tech. Staz. sper. agr. ital. . Svensk Kem. Tidskr. Tech. Rep. Tôhoku Imp. Univ. Tekn. Tidsk. Textilber. Tonind.-Ztg. Trans. Amer. Electrochem. Soc. Trans. Amer. Inst. Chem. Eng. Trans. Amer. Inst. Metals Trans. Amer. Inst. Min. Eng. Trans. Ceram. Soc. Trans. Faraday Soc. . Trans. Inst. Min. and Met. Trans. N. Eng. Inst. Min. and Met. Trans. New Zealand Inst. Trans. Nova Scotia Inst. Sci. Roy. Irish Trans. Acad. Trans. Roy. Soc. Canada Roy. Trans. Soc. Edin. Trans. Roy. Soc. S. Africa. Tsch. Min. Mitt. U.S. Bur. Mines, Bull. and Tech. Papers. U.S. Bur. Plant Ind. U.S. Agric. Dept. Bull. U.S. Hyg. Labor. Bull. U.S.P. Ukraine Chem. J. Univ. Illinois Bull. Coll. Utah Agric. Exp. Stat. Bull. Verh. Geol. Reichsanst. Wien Ges. Verh. dent. Naturforsch. Aertze Wiss. Veröff. Siemens-Konz. Woch. Brau. Z. anal. Chem. . Z. angew. Chem. Z. anorg. Chem. Z. Biol. Z. deut. bot. Ges. Z. deut. Geol. Ges. Z. dcut. Oel- Fett-Ind. Z. Elektrochem. Z. exp. Path. Ther. . Z. ges. Brauw. . Z. ges. exp. Med. ges. Schiess-Sprengstoffw.

Z. Hyg. .

Stain Technology. Stazioni sperimentali agrarie italiane. Svensk Kemisk Tidskrift. the Tóhoku Technology Reports of Imperial University, Sendai, Japan. Teknisk Tidskrift. Melliand's Textilberichte über Wissenschaft, Industrie und Handel. Tonindustrie-Zeitung. Transactions of the American Electrochemical Society. Transactions of the American Institute of Chemical Engineers. Transactions of the American Institution of Metals. Transactions of the American Institue of Mining Engineers. Transactions of the Ceramic Society. Transactions of the Faraday Society. Transactions of the Institution of Mining and Metallurgy. Transactions of the North of England Institute of Mining and Metallurgy. Transactions of the New Zealand Institute. Transactions of the Nova Scotia Institute of Science. Transactions of the Royal Irish Academy. Transactions of the Royal Society of Canada. Transactions of the Royal Society of Edinburgh. Transactions of the Royal Society of South Africa. Tschermak's Mineralogische Mitteilungen. United States Bureau of Mines, Bulletins and Technical Papers. United States Bureau of Plant Industry. United States Department of Agriculture Bulletins. United States Hygienic Laboratory Bulletins. United States Patent. Ukraine Chemical Journal. University of Illinois Bulletins. Utah Agricultural College Experiment Station Bulletins. Verhandlungen der geologischen Reichsanstalt in Wien. Verhandlungen der Gesellschaft deutscher Naturforscher und Aertze. Wissenschaftliche Veröffentlichungen aus dem Siemens-Konzern. Wochenschrift für Brauerei Zeitschrift für analytische Chemie. Zeitschrift für angewandte Chemie. Zeitsehrift für anorganische und allgemeine Chemie. Zeitschrift für Biologie. Zeitschrift der deutschen botanischen Gesellschaft. Zeitschrift der deutschen Geologischen Gesellschaft. Zeitschrift der deutschen Oel- und Fett-Industrie. Zeitschrift für Elektrochemie. Zeitschrift für experimentelle Pathologie und Therapie. Zeitsehrift für das gesamte Brauwesen. Zeitschrift für die gesamte experimentelle Medizin. Zeitschrift für das gesamte Schiess- und Sprengstoffwesen. Zeitschrift für Hygiene und Infektionskrankheiten.

JOURNAL.

ABBEVIATED LITLE.	JOURNAL.	ı
Z. Insument	Zeitschrift für Instrumentenkunde.	2
Z. Krt	Zeitschrift für Kristallographie.	] 2
Z. Mellk	Zeitschrift für Metallkunde.	
Z. Pfnz. Düng	Zeitschrift für Pflanzenernährung und	2
	Düngung.	
	Zeitschrift für Physik.	2
Z. plsikal. Chem.	Zeitschrift für physikalische Chemie,	ļ
•	Stöchiometrie und Verwandschafts-	7
	lehre.	1
Z. ıysikal. chem.	Zeitschrift für den physikalischen und	1
	chemischen Unterricht.	2
Z. psiol. Chem	Hoppe-Seyler's Zeitschrift für physio-	١.
	logische Chemie.	2
Z. p.t. Geol	Zeitschrift für praktische Geologie.	2
	Zeitschrift für Sauerstoff und Stickstoff	
st Ind.	Industrie.	2

	ABBREVIATED TITLE.	JOURNAL.
	Z. Spiritusind	Zeitschrift für Spiritusindustrie.
ı	Z. Unters. Lebensin	Zeitschrift für Untersuchung der Lebens-
		mittel.
İ	Z. Ver. deut. Zucker-	Zeitschrift des Vereins der deutschen
l	Ind	Zucker-Industrie.
l	Z. wiss. Mikrosk.	Zeitschrift für wissenschaftliche Mikro-
l		skopie und mikroskopische Technik.
l	Z. wiss. Phot	Zeitschrift für wissenschaftliche Photo-
l		graphie, Photophysik und Photo-
l		chemie.
	Z. Zuckerind. Czecho-	Zeitschrift für die Zuckerindustrie der
	slov.	Čechoslovakischen Republik.
1	Zellstoff u. Papier .	Zellstoff und Papier.
l	Zentr. Bakt.	Centralblatt für Bakteriologie, Parasiten-
l	Zonor Zonor .	kunde und Infektionskrankheiten,
	Zentr. Zuckerind	Zentralblatt für Zuckerindustrie.



#### ERRATA.

#### ABSTRACTS A., 1926 (PURE CHEMISTRY).

col.

line

11\*

902

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page
                                          For "Braun" read "Brann."
1215
                              5*
                                          In the formula for 2-o-violone, the O at the left should form part of the ring structure other
1254
                                             pyrylium nucleus.
                                                                                        1927.
                col.
                           line
                                         For "WINTER" read "WINTNER."
For "DE MALLEMAN" read "DE MALLEMANN."
For "5-hydroxyfurfuraldehyde" read "5-hydroxymethylfurfuraldehyde."
For "GUIER.SIMOV" read "GERASIMOV."
For "SANDER" read "JANDER."
For "PRINGSHEIM" read "STAUDINGER."
Insert third author's name R. A. Morton.
For "Huot" read "Houot."
For "Aeslerius suriaga" read "Aeslerius suriaga."
page
                             25
                 2
                             32
    8
   G1
                      16* and 18*
                 2
                             24
  110
                             24*
  126
                              8*
  136
                 1
                             13*
                 2
  183
                             17
  194
                 1
                        6* and 9*
                                          For "Asclepius syriaca" read "Asclepias syriaca."
  248
                                          For "Bluit" read "Blüit."
For "Rosencrans" read "Rosecrans."
                 2
                             19
  316
                 2
                             23
  318
                                          FOR "ROSEDGRANS " read " ROSEGRANS.
FOR "MUCHINE" read " MUCHIN."
FOR "CERNATESCO" read " CERNATESCU."
FOR "HERZMAN" read " HERTZMAN."
FOR "CHAILOFF" read " CHAIROFF."
FOR "GOBZOW" read " GOLZOV" and for "JANKOWSKY" read "JANKOVSKY."
FOR "LESSING" read "LESSING."
FOR "Ephredra" read "LESSING."
FOR "Ephredra" read "Colledring"
                 2
                             30*
  524
                 2
  534
                             25*
                             26
  583
                 2
                              3
  594
                 2
                             16
  689
  746
                 1
                             23
                 9
                        19 and 22
  789
                                          For "Grayiola" read "ephedrine."
For "Grayiola" read "Gaviola."
For "Matugama" read "Matuyama."
  799
                  9
                             21
                  2
                       17* and 19*
  810
  820
                              7
                                           For " aaβ-triphenyl-β-methyl-Δα-propene" read " aaβ-triphenyl-Δα-propene."
                             21*
  957
                                          For "Perietranu" read "Perietzzanu."

For "Diachkovski" read "Diatschkovski."
                  \bar{2}
                             19*
  957
                               9*
1046
                             10
                  1
1137
                                          For "LAHORKA" read "ZAHORKA."
                             28*
1148
                                               ABSTRACTS B., 1927 (APPLIED CHEMISTRY).
                 col.
                             line
page
                              5*
                                           For "Wiggington" read "Wigginton."
                                           For "E.P. 206,639" read "E.P. 260,639."
For "Sperrs" read "Spiers."
For "Ostraga" read "Ostroga."
For "Keeper" read "Keefer."
                              20*
    36
                  1
                               4*
    76
                              16
    77
                              18
    94
                                           For "ELECTROLUX SERVIEL" read "ELECTROLUX SERVEL."
                  2
                             25
  159
                                           For "United States Refining Co." read "United States Metals Refining Co." For "Pickard" read "Picard."
                  2
  189
                              17
                               1*
  264
                                           For "Noyadel" read "Novadel." For "Hermann" read "Hermann."
                  \tilde{2}
  376
                              26
                              22
  419
                  î
                                           For "Poll" read "Pöll."
                              19
  458
                                           For "Blumner" read "Blumner."
For "Farbre" read "Fabre."
For "Jakosky" read "Jakowsky."
For "Wolte" read "Nolte."
  468
                               S
                  2
                               8*
  500
                              20
                  1
  547
                              24*
                  l
  566
                                           For "SCHWATZ" read "SCHWARTZ."
  680
                  1
                              16
                                           For "basic" read "direct cotton."
For "Acid" read "Sulphur."
For "274,196" read "274,198."
   685
                              19
   685
                              24
   701
                              26*
                  2
                                           For "DODWELL" read "DOWDELL."
                              20*
  724
                                           For "Hydrocarbon Refinishing Process Co." read "Hydrocarbon Refining Process Co.
                  2
                              18*
  806
                                           For "JELLINCK" read "JELLINEK.
   812
```

For "E.P. 287,039" read "E.P. 278,039."

<sup>\*</sup> From bottom.